

§ 1915.117

29 CFR Ch. XVII (7–1–13 Edition)

shall be secured or removed as early as possible.

(l) An individual who is familiar with the signal code in use shall be assigned to act as a signalman when the hoist operator cannot see the load being handled. Communications shall be made by means of clear and distinct visual or auditory signals except that verbal signals shall not be permitted.

(m) Pallets, when used, shall be of such material and construction and so maintained as to safely support and carry the loads being handled on them.

(n) A section of hatch through which materials or equipment are being raised, lowered, moved, or otherwise shifted manually or by a crane, winch, hoist, or derrick, shall be completely opened. The beam or pontoon left in place adjacent to an opening shall be sufficiently lashed, locked or otherwise secured to prevent it from moving so that it cannot be displaced by accident.

(o) Hatches shall not be open or closed while employees are in the square of the hatch below.

(p) Before loads or empty lifting gear are raised, lowered, or swung, clear and sufficient advance warning shall be given to employees in the vicinity of such operations.

(q) At no time shall an employee be permitted to place himself in a hazardous position between a swinging load and a fixed object.

[47 FR 16986, Apr. 20, 1982, as amended at 67 FR 44543, July 3, 2002]

§ 1915.117 Qualifications of operators.

Paragraphs (a) and (d) of this section shall apply to ship repairing and shipbuilding only. Paragraphs (b) and (c) of this section shall apply to ship repairing, shipbuilding and shipbreaking.

(a) When ship's gear is used to hoist materials aboard, a competent person shall determine that the gear is properly rigged, that it is in safe condition, and that it will not be overloaded by the size and weight of the lift.

(b) Only those employees who understand the signs, notices, and operating instructions, and are familiar with the signal code in use, shall be permitted to operate a crane, winch, or other power operated hoisting apparatus.

(c) No employee known to have defective uncorrected eyesight or hearing, or to be suffering from heart disease, epilepsy, or similar ailments which may suddenly incapacitate him, shall be permitted to operate a crane, winch or other power operated hoisting apparatus.

(d) No minor under eighteen (18) years of age shall be employed in occupations involving the operation of any power-driven hoisting apparatus or assisting in such operations by work such as hooking on, loading slings, rigging gear, etc.

§ 1915.118 Tables.

The provisions of this section apply to ship repairing, shipbuilding and shipbreaking.

TABLE E-1—DIMENSIONS AND SPACING OF WOOD INDEPENDENT-POLE SCAFFOLD MEMBERS

Structural members	Light duty (Up to 25 pounds per square foot)—Height in feet			Heavy duty (25 to 75 pounds per square foot)—Height in feet		
	≤24	>24≤40	>40≤60	≤24	>24≤40	>40≤60
Poles or uprights (in inches) .....	2×4	3×4 or 2×6	4×4	3×4	4×4	4×6
Bearers (in inches) .....	2×6	2×6	2×6	2×8	2×8	2×10
Ledgers (in inches) .....	2×6	2×6	2×6	2×8	2×8	2×8
Stringers (not supporting bearers) (in inches) .....	1×6	1×6	1×6	1×6	1×6	1×6
Braces (in inches) .....	1×4	1×6	1×6	1×6	1×6	1×6
Pole spacing—longitudinally (in feet) .....	7½	7½	7½	7	7	7
Pole spacing—transversely (in feet) .....	6½ min	7½ min	8½ min	6½	10	10
Ledger spacing—vertically (in feet) .....	7	7	7	4½	4½	4½

TABLE E-2—SPECIFICATIONS FOR SIDE RAILS OF LADDERS

Length (in feet)	Cross section (in inches)	
	At ends	At center
15 .....	1 <sup>7</sup> / <sub>8</sub> ×2 <sup>3</sup> / <sub>4</sub>	1 <sup>7</sup> / <sub>8</sub> ×3 <sup>3</sup> / <sub>4</sub>
16 .....	1 <sup>7</sup> / <sub>8</sub> ×2 <sup>3</sup> / <sub>4</sub>	1 <sup>7</sup> / <sub>8</sub> ×3 <sup>3</sup> / <sub>4</sub>
18 .....	1 <sup>7</sup> / <sub>8</sub> ×3	1 <sup>7</sup> / <sub>8</sub> ×4
20 .....	1 <sup>7</sup> / <sub>8</sub> ×3	1 <sup>7</sup> / <sub>8</sub> ×4
24 .....	1 <sup>7</sup> / <sub>8</sub> ×3	1 <sup>7</sup> / <sub>8</sub> ×4 <sup>1</sup> / <sub>2</sub>

TABLE E-3—SPECIFICATIONS FOR THE CONSTRUCTION OF HORSES

Structural members	Height in feet		
	≤10	>10≤16	16≤20
Legs .....	<i>inches</i> 2×4	<i>inches</i> 3×4	<i>inches</i> 4×6
Bearers or headers .....	2×6	2×8	4×6
Crossbraces .....	2×4 or 1×8	2×4	2×6
Longitudinal braces .....	2×4	2×6	2×6

TABLE E-4—SAFE CENTER LOADS FOR SCAFFOLD PLANK OF 1,100 POUNDS FIBRE STRESS

Span in feet	Lumber dimensions in inches							
	A	B	A	B	A	B	A	B
	2×10	1 <sup>5</sup> / <sub>8</sub> ×9 <sup>1</sup> / <sub>2</sub>	2×12	1 <sup>5</sup> / <sub>8</sub> ×11 <sup>1</sup> / <sub>2</sub>	3×8	2 <sup>5</sup> / <sub>8</sub> ×7 <sup>1</sup> / <sub>2</sub>	3×10	2 <sup>5</sup> / <sub>8</sub> ×9 <sup>1</sup> / <sub>2</sub>
6 .....	256		309		526		667	807
8 .....	192		232		395		500	605
10 .....	153		186		316		400	484
12 .....	128		155		263		333	404
14 .....	110		133		225		286	346
16 .....			116		197		250	303

(A)—Rough lumber.  
(B)—Dressed lumber.

TABLE G-1—NUMBER AND SPACING OF U-BOLT WIRE ROPE CLIPS

Improved plow steel, rope diameter, inches	Number of clips		Minimum spacing, inches
	Drop forged	Other material	
( <sup>1</sup> ) .....			
1/2 .....	3	4	3
5/8 .....	3	4	3 <sup>3</sup> / <sub>4</sub>
3/4 .....	4	5	4 <sup>1</sup> / <sub>2</sub>
7/8 .....	4	5	5 <sup>1</sup> / <sub>4</sub>
1 .....	4	6	6
1 <sup>1</sup> / <sub>8</sub> .....	5	6	6 <sup>3</sup> / <sub>4</sub>
1 <sup>1</sup> / <sub>4</sub> .....	5	7	7 <sup>1</sup> / <sub>2</sub>
1 <sup>3</sup> / <sub>8</sub> .....	6	7	8 <sup>1</sup> / <sub>4</sub>
1 <sup>1</sup> / <sub>2</sub> .....	6	8	9

<sup>1</sup> Three clips shall be used on wire size less than 1/2-inch diameter.

TABLE G-2—MAXIMUM ALLOWABLE WEAR AT ANY POINT OF LINK

Chain size in inches	Maximum allowable wear in fraction of inches
1/4( <sup>9</sup> / <sub>32</sub> ) .....	3/64
3/8 .....	5/64
1/2 .....	7/64
5/8 .....	9/64
3/4 .....	5/32
7/8 .....	11/64
1 .....	3/16
1 <sup>1</sup> / <sub>8</sub> .....	7/32
1 <sup>1</sup> / <sub>4</sub> .....	1/4
1 <sup>3</sup> / <sub>8</sub> .....	9/32
1 <sup>1</sup> / <sub>2</sub> .....	5/16
1 <sup>3</sup> / <sub>4</sub> .....	11/32

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